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PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application: Matthew B. Baillie, *et al.*

Serial No.: 09/138,146

Filed: August 21, 1998

Title: INTEGRATED CIRCUIT CARRIER AND METHOD OF
MANUFACTURING AND INTEGRATED CIRCUIT

Grp./A.U.: 2815

Examiner: S. Clark

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April 19, 2004 *Elizabeth Shanahan*
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ATTENTION: Board of Patent Appeals and Interferences

Sirs:

APPELLANTS' BRIEF UNDER 37 C.F.R. §1.192

This is an appeal from a Final Rejection dated November 7, 2003, of Claims 1-7 and 21-28.

The Appellants submit this Brief in triplicate as required by 37 C.F.R. §1.192(a), with the statutory

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fee of \$330.00 as set forth in 37 C.F.R. §1.17(c), and hereby authorize the Commissioner to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-2395.

This Brief contains these items under the following headings, and in the order set forth below in accordance with 37 C.F.R. §1.192(c):

- I. REAL PARTY IN INTEREST
- II. RELATED APPEALS AND INTERFERENCES
- III. STATUS OF CLAIMS
- IV. STATUS OF AMENDMENTS
- V. SUMMARY OF INVENTION
- VI. ISSUES
- VII. GROUPING OF CLAIMS
- VIII. PRIOR ART
- IX. APPELLANTS' ARGUMENTS
- X. APPENDIX A - CLAIMS

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is the Assignee, Agere Systems, Inc.

II. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-7 and 21-28 are pending in this Application.

IV. STATUS OF THE AMENDMENTS

The present Application was filed on August 8, 1998. The Appellants filed a first Amendment on September 25, 2000, in response to an Examiner's Action mailed May 24, 2000. The Examiner entered the first Amendment and subsequently issued a Final Rejection on March 20, 2001. The Appellants filed a Notice of Appeal on June 15, 2001, in response to the Final Rejection of March 20, 2001, and followed that up with a Request for Continued Examination (RCE) on November 13, 2001. In the time period between the Notice of Appeal and the RCE the Application apparently became abandoned. The Appellants, between March 19, 2002, and September 17, 2003,

filed a number of Petitions to revive the erroneous abandonment. After a great deal of confusion, the PTO granted the Petitions in a single letter dated September 23, 2003. A portion of the confusion arose from the Examiner issuing an Office Action on March 12, 2003, which was during the time that the application was supposedly abandoned. After clearing up the abandonment issues, the Appellants then filed a second Amendment on April 18, 2002, in response to the March 12, 2003, Examiner's Action. The Examiner then issued a second Final Office Action on November 7, 2003. The Appellants then filed a Request for Reconsideration on January 5, 2004. The Examiner indicated that the response to the second Final Rejection did not place the Application in condition for allowance, and issued an Advisory Action on March 8, 2004. The Appellants then filed a Notice of Appeal on March 16, 2004.

V. SUMMARY OF THE INVENTION

The present invention provides a chip carrier having a double well structure including an inner well and an outer well, the inner and outer wells forming a flexible structure that adsorbs forces generated by impacts. (Page 3, lines 1-6 of the Application). As shown in connection with Illustrations 1 & 2 below (FIG.s 1 & 2, respectively), the chip carrier 100 includes a base 115, an inner well extending along a length of a periphery of the base 120, and an outer well 125 extending along a length of a periphery of the inner well 120.



FIG. 1

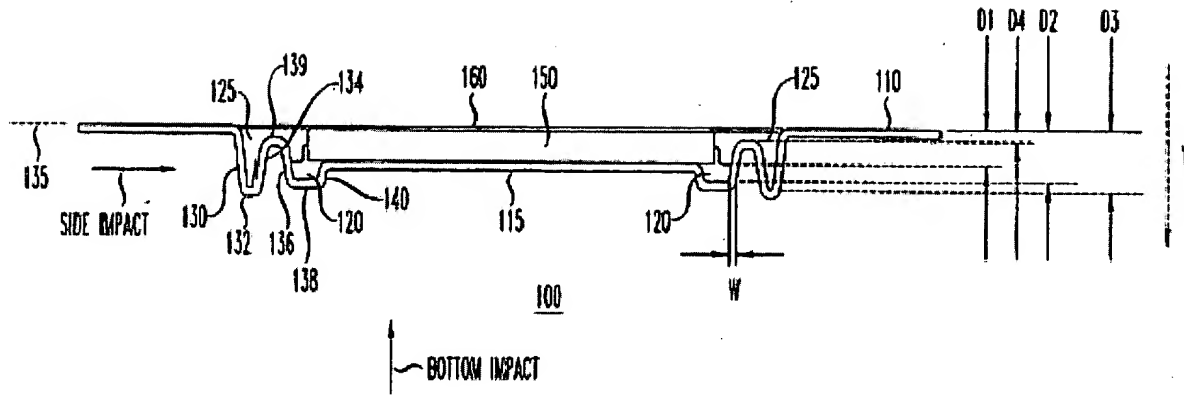


Illustration 1

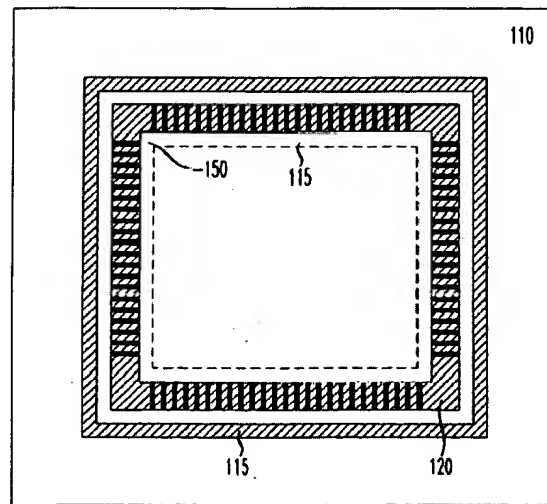


Illustration 2

VI. ISSUES

1) The first issue presented for consideration in this appeal is whether Claims 1, 3, 5, 7, 21, 23-25, 27 and 28, as rejected by the Examiner, are anticipated in accordance with 35 U.S.C. §102(a) by U.S. Patent No. 5,012,386 to McShane, *et al.* (“McShane”).

2) The second issue presented for consideration in this appeal is whether Claim 2, as rejected by the Examiner, is patentably nonobvious in accordance with 35 U.S.C. §103(a) over McShane.

3) The third issue presented for consideration in this appeal is whether Claims 1, 3 and 5-7, as rejected by the Examiner, are anticipated in accordance with 35 U.S.C. §102(a) by U.S. Patent No. 3,825,803 to Budde (“Budde”).

4) The fourth issue presented for consideration in this appeal is whether Claim 2, as rejected by the Examiner, is patentably nonobvious in accordance with 35 U.S.C. §103(a) over Budde.

5) The fifth issue presented for consideration in this appeal is whether Claims 22 and 26, as rejected by the Examiner, are patentably nonobvious in accordance with 35 U.S.C. §103(a) over McShane.

VII. GROUPING OF THE CLAIMS

Claims 1-7 and 21-28 do not stand or fall together. Claims 1 and 25 form a first group, Claim 2 forms a second group, Claim 3 forms a third group, Claim 4 forms a fourth group, Claim 5 forms a fifth group, Claims 6 and 7 form a sixth group, Claim 21 forms a seventh group, Claim 22 forms an eighth group, Claims 23 and 24 form a ninth group, Claim 26 forms a tenth group, and Claims 27 and 28 form an eleventh group.

VIII. PRIOR ART

A. McShane

McShane, as shown in Illustrations 3 and 4 below (FIG.s 1 and 2 of McShane), is directed to a package for containing high performance electronic components, such as high speed integrated circuits (ICs). (Abstract). McShane teaches that a multilayer substrate 12 is encapsulated in a package body 58. McShane further teaches that the multilayer substrate has a plurality of through-holes 28 located in a periphery thereof for accepting the proximal ends 34 of electrical leads 30.

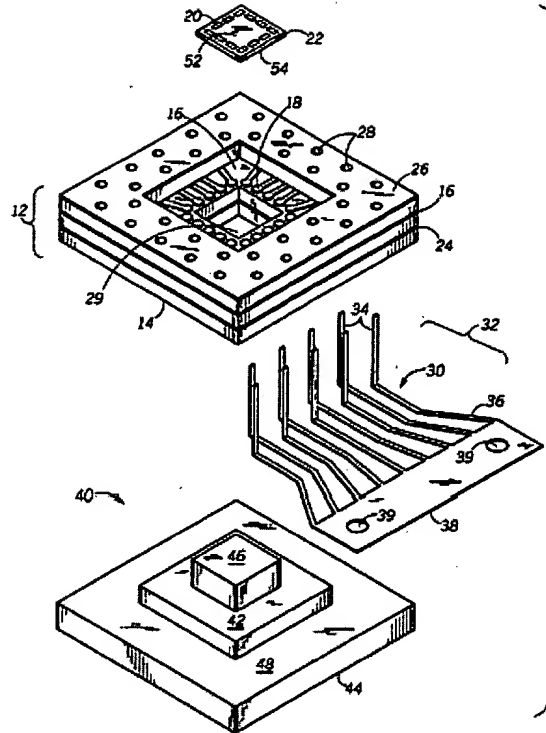


FIG.1
 Illustration 3

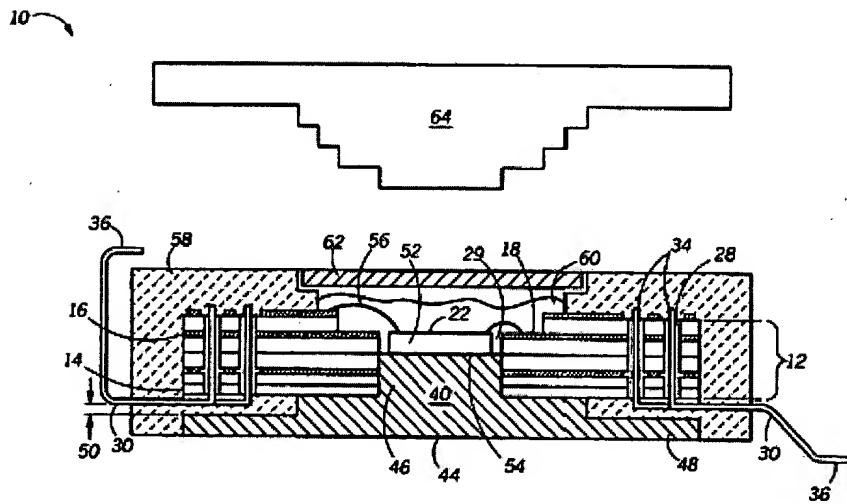


FIG.2
 Illustration 4

B. Budde

Budde, on the other hand, as shown in Illustrations 5 and 6 below (FIG.s 1 and 2 of Budde), is directed to semiconductor lead and heat sink structure. (Title). Budde teaches that longitudinal ends of the cooling member 5 comprise step-like portions 7, 8 bent in the direction of the foil. Budde further discloses that the cooling member 5 has two conical bosses 6 extending from within a center thereof. Budde teaches that the conical bosses 6 extend against the foil 1 so that the foil 1 extends mainly parallel to the cooling member 5. (Column 2, lines 64-66).

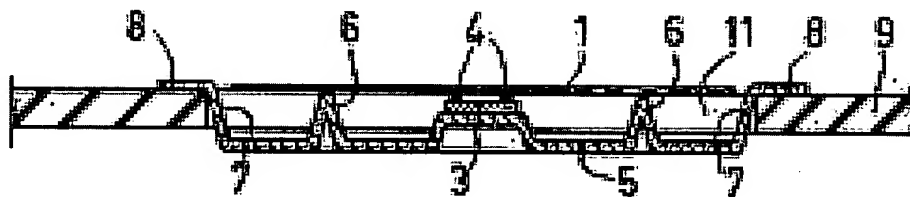


Fig.1

Illustration 5

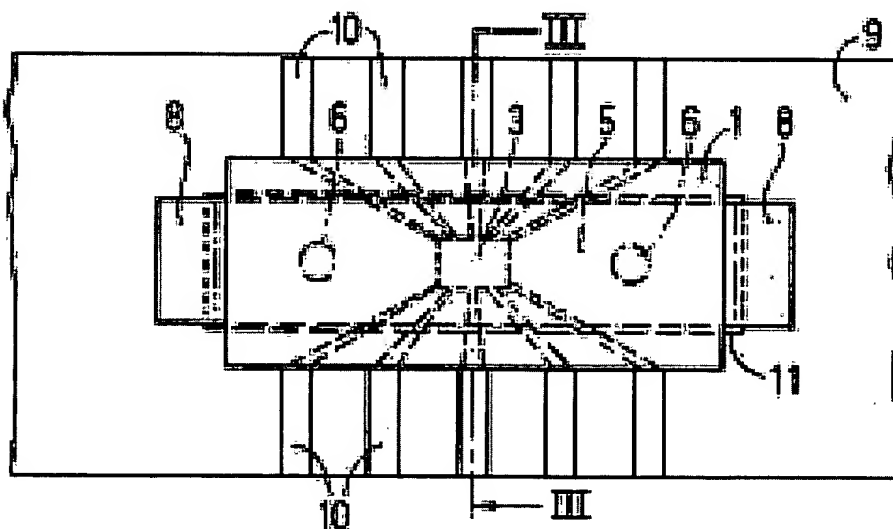


Fig.2

Illustration 6

IX. THE APPELLANTS' ARGUMENTS

The inventions set forth in independent Claims 1 and 25, and their respective dependent claims, are neither anticipated by nor made obvious from the references on which the Examiner relies.

A. Rejection of Claims 1, 3, 5, 7, 21, 23-25, 27 and 28 under 35 U.S.C. §102

The Examiner has rejected Claims 1, 3, 5, 7, 21, 23-25, 27 and 28 under 35 U.S.C. §102(b) as being anticipated by McShane. McShane fails to anticipate the elements of independent Claims 1 and 25, and their dependent claims, because McShane fails to disclose every element of independent Claims 1 and 25. Specifically, McShane fails to disclose inner and outer wells extending along a length of a periphery of a base, as recited in Claims 1 and 25 of the present application. In contrast, McShane merely discloses a plurality of through-holes 28 located within a periphery of a multilayer substrate 12. One having ordinary skill in the pertinent art understands that a plurality of through-holes located within a periphery of a substrate is different from a well extending along a length of a periphery of a base.

Moreover, the Appellants claim that “an” inner well extends along a length of the periphery of the base. As claimed, this requires that a single inner well extends along the periphery of the base. Therefore, the Examiner must choose a single structure, such as a single one of the plurality of through-holes 28, and draw a correlation between it and the claimed single well. Nevertheless, no single through-hole 28 extends along a length of the periphery of the base, as currently claimed. The Examiner is not at liberty to take the collection of the through-holes 28 and refer to them as a single

well. Any skilled person that would draw such a correlation between the two structures would be using the present invention as a blueprint to find the claimed subject matter anticipated or obvious. As the Examiner is well aware, she does not have this liberty.

Therefore, McShane fails to disclose each and every element of Claims 1 and 25 and, as such, is not an anticipating reference thereof. Because Claims 3, 5, 7, 21, 23, 24, 27 and 28 are dependent upon Claims 1 and 25, McShane is also not an anticipating reference for these Claims. Accordingly, the Appellants respectfully request the Board of Patent Appeals and Interferences to withdraw the §102 rejection with respect to Claims 1, 3, 5, 7, 21, 23-25, 27 and 28.

B. Rejection of Claim 2 under 35 U.S.C. §103

The Examiner has rejected Claim 2 under 35 U.S.C. §103(a) as being unpatentable over McShane. The above argument establishing the novelty of independent Claims 1 and 25 is incorporated herein by reference. To that end, the Examiner has asserted that the use of flexible materials is obvious over McShane. (Examiner's Action, page 3). However, withholding comment on the accuracy of the Examiner's assertion, such an assertion fails to cure the above-described shortcomings of McShane. Specifically, even if using flexible materials may be obvious in view of McShane, as the Examiner has asserted, McShane still fails to teach or suggest inner and outer wells extending along a length of a periphery of a base, as recited in Claim 1 of the present application. In contrast, McShane merely teaches a plurality of through-holes 28 located within a periphery of a multilayer substrate, and provides no suggestion for any single feature extending along a length of the periphery of the substrate 12. Accordingly, McShane fails to teach or suggest inner and outer wells extending along a length of a periphery of a base, as recited in Claim 1 of the present

application. Therefore, the Examiner has failed to make a *prima facie* case of obviousness with respect to Claim 1 and its dependent Claims. Claim 2 is therefore not obvious in view of McShane.

In view of the foregoing remarks, McShane does not support the Examiner's rejection of Claim 2 under 35 U.S.C. §103(a). The Appellants therefore respectfully request the Board of Patent Appeals and Interferences to withdraw the §103 rejection to Claim 2.

C. Rejection of Claims 1, 3 and 5-7 under 35 U.S.C. §102

The Examiner has rejected Claims 1, 3 and 5-7 under 35 U.S.C. §102(b) as being anticipated by Budde. Budde fails to anticipate the elements of independent Claim 1, and its dependent claims, because Budde fails to disclose every element of independent Claim 1. Specifically, Budde fails to disclose inner and outer wells extending along a length of a periphery of a base, as recited in Claim 1 of the present application. In contrast, Budde merely discloses a cooling member 5 having two conical bosses 6 extending from within a center of the cooling member. Therefore, the cooling member 5 does not have any wells extending along a length of its periphery, as currently claimed.

Budde also discloses that the cooling member 5 is positioned in an aperture 11 in a mounting panel 9. The only disclosed features of the mounting panel 9 are the aperture 11, the printed wiring 10 and the flexible foil 1, which are all located within a periphery of the mounting panel 9. Therefore, the mounting panel 9 also does not have any wells (or other elements) extending along a length of its periphery.

Moreover, the Appellants claim that “an” inner well extends along a length of the periphery of the base and “an” outer well extends along a periphery of the inner well. As claimed, this requires that a single inner well extend along the periphery of the base and that another single outer well

extend along the periphery of the inner well. Therefore, the Examiner must find two wells as claimed.

The Examiner, however, recites that feature 11, which is not even a well at all, is both the inner well and the outer well. (Page 3 of Examiner's Action dated November 11, 2003) Again, the Examiner does not have this liberty. Either the aperture 11 is the inner well or the outer well, but it cannot be both. Thus, regardless of whether the Examiner labels the aperture 11 the inner well or outer well, and again it must be noted that the Appellants strongly disagree that the aperture 11 could be considered a well, the Budde reference fails to teach or suggest the other claimed element.

Accordingly, Budde fails to disclose each and every element of Claim 1 and, as such, is not an anticipating reference thereof. Because Claims 3 and 5-7 are dependent upon Claim 1, Budde is also not an anticipating reference for these Claims. Therefore, the Appellants respectfully request the Board of Patent Appeals and Interferences to withdraw the §102 rejection with respect to Claims 1, 3 and 5-7.

D. Rejection of Claim 2 under 35 U.S.C. §103

The Examiner has rejected Claim 2 under 35 U.S.C. §103(a) as being unpatentable over Budde. The above argument establishing the novelty of independent Claim 1 is incorporated herein by reference. To that end, the Examiner has asserted that the use of flexible materials is obvious over Budde. (Examiner's Action, page 4). However, withholding comment on the accuracy of the Examiner's assertion, such an assertion fails to cure the above-described shortcomings of Budde. Specifically, even if the use of flexible materials may be obvious over Budde, as the Examiner has asserted, Budde still fails to teach or suggest inner and outer wells extending along a length of a

periphery of a base. In contrast, Budde merely teaches and suggests a cooling member 5 having two conical bosses 6 extending from within a center of the cooling member, and a mounting panel 9 having an aperture 11, a printed wiring 10 and a flexible foil 1 located within a periphery of the mounting panel 9.

In addition, Budde provides no suggestion for any features extending along a length of the periphery of the substrate 12. Accordingly, Budde fails to teach or suggest inner and outer wells extending along a length of a periphery of a base and inner well, respectively, as recited in Claim 1 of the present application. Therefore, the Examiner has failed to make a *prima facie* case of obviousness with respect to Claim 1 and its dependent Claims. Claim 2 is therefore not obvious in view of Budde.

In view of the foregoing remarks, Budde does not support the Examiner's rejection of Claim 2 under 35 U.S.C. §103(a). The Appellants therefore respectfully request the Board of Patent Appeals and Interferences to withdraw the §103 rejection to Claim 2.

E. Rejection of Claims 22 and 26 under 35 U.S.C. §103

The Examiner has rejected Claims 22 and 26 under 35 U.S.C. §103(a) as being unpatentable over McShane. The above argument establishing the novelty of independent Claim 25 is incorporated herein by reference. To that end, the Examiner has asserted that it would have been obvious to one having ordinary skill in the art to use a plurality of integrated circuit carriers, and that the ordinary artisan would have been motivated to modify McShane therefor. (Examiner's Action, page 4). However, withholding comment on the accuracy of the Examiner's assertion, such an assertion fails to cure the above-described shortcomings of McShane. Specifically, McShane fails

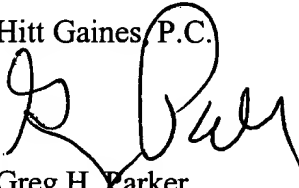
to teach or suggest inner and outer wells extending along a length a periphery of a base as established above. Claims 22 and 26 are therefore not obvious in view of McShane.

In view of the foregoing remarks, McShane does not support the Examiner's rejection of Claims 22 and 26 under 35 U.S.C. §103(a). The Appellants therefore respectfully request the Board of Patent Appeals and Interferences to withdraw the §103 rejection to Claims 22 and 26.

For the reasons set forth above, the Claims on appeal are not anticipated by McShane or Budde. Further, the Claims are patentably nonobvious over McShane and Budde either alone or in combination. Accordingly, the Appellants respectfully requests that the Board of Patent Appeals and Interferences reverse the Examiner's Final Rejection of all of the Appellants' pending claims.

Respectfully submitted,

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Dated: 4-19-04

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X. APPENDIX A - CLAIMS

1. A chip carrier comprising:

a base;

an inner well extending along a length of a periphery of the base; and

an outer well extending along a length of a periphery of the inner well.
2. The chip carrier according to claim wherein the first well and the second well form a flexible structure.
3. The chip carrier according to claim 1 wherein the outer well includes an outer wall and an inner wall and the inner well includes an outer wall coupled to the inner wall of the outer well.
4. The chip carrier according to claim 1 wherein the base includes an upper surface and wherein the outer well has a first base and the inner well has a second base wherein there is a first distance between the first base and the upper surface and there is a second distance between the second base and the upper surface, the first distance greater than the second distance.
5. The chip carrier according to claim 1 further comprising an integrated circuit removably positioned on the base.

6. The chip carrier according to claim 1 wherein the outer well and the inner well encircle the base.

7. The chip carrier according to claim 1 wherein at least one of the outer well and the inner well encircle the base.

Claim 8-20 (Canceled)

21. The chip carrier according to claim 1 further comprising:
an upper surface;
an integrated circuit positioned on the base and below the upper surface, the integrated circuit having leads;
wherein the inner well has a base, the leads positioned above the base and below the upper surface.

22. The chip carrier according to claim 1 wherein the base, the inner well, and the outer well form an integrated circuit carrier and the chip carrier further comprises a plurality of integrated circuit carriers.

23. The chip carrier according to claim 1 further comprising a cover adapted to hold an integrated circuit in the chip carrier.

24. The chip carrier according to claim 1 further comprising a cover for holding an integrated circuit in the chip carrier.

25. A chip carrier comprising:

a base;

an inner well extending along a length of a periphery of the base; and

an outer well extending along a length of a periphery of the inner well,

the chip carrier adapted to temporarily hold an integrated circuit in the chip carrier.

26. The chip carrier according to claim 25 wherein the base, the inner well, and the outer well form an integrated circuit carrier and the chip carrier further comprises a plurality of integrated circuit carriers.

27. The chip carrier according to claim 25 further comprising a cover adapted to hold an integrated circuit in the chip carrier.

28. The chip carrier according to claim 25 further comprising a cover for holding an integrated circuit in the chip carrier.